

SPACE DEBRIS SYMPOSIUM (A6)

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CONSIDERATION FOR SPACE DEBRIS COST ANALYSIS IN GEOSTATIONARY ORBIT

Abstract

Space debris removal efforts are commonly examined based on their respective economic metrics. Despite the convoluted characteristics of the space debris domain which also interlinks space related policy, law, and regulation clusters to a myriad of technical solutions, and at times uncoordinated national and international preferences and measures to mitigate space debris, an alternative approach to consider space debris in geostationary orbit (GEO) is proposed. In this study, a preliminary phase of GEO cost analysis which considers the non-uniform probability of collision in longitude is considered with respect to insurance estimations for future space missions. Given the perceived low risk of collisions in GEO, the mission-terminating risk factor related to non-cataloged objects will be considered for an increasing average time between a GEO deployment and its move to a graveyard orbit. Furthermore, related discussions that mirror the complex onset of coordinating international partnerships for space debris mitigation purposes in GEO are also communicated with aims of initiating a debate about space debris removal and the consequences of inactivities in this regard.